

Serial No.: 10/749,394
Docket No.: 103-1002
Amendment dated December 7, 2006
Reply to the Final Office Action of October 10, 2006

REMARKS

Upon entry of the foregoing Amendment, claims 1-28, 31, and 32 are pending in the application. Claims 6-9 and 20-27 remain withdrawn from consideration. By this Amendment, claims 1 and 28 are amended, and claims 31 and 32 are added. No new matter is being presented. In view of the following remarks, reconsideration and allowance of all of the pending claims are respectfully requested.

A. Allowable Subject Matter

Applicants note with appreciation the Examiner's indication that claims 11-19 contain allowable subject matter.

B. Election of Species Requirement

Applicants understand that upon allowance of a generic claim, Applicants will be entitled to consideration of all withdrawn claims directed to non-elected species that are written in independent form or otherwise include all of the limitations of an allowed generic claim.

C. §112, Second Paragraph, Rejection

Claim 28 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically, the Examiner asserts that the phrase "the charging terminals moves in a first direction with respect to the first body of the first charging terminal" renders claim 28 indefinite. By this Amendment, claim 28 is amended to remove the "wherein" clause containing the objectionable phrase. Because new claim 31 recites the "wherein" clause containing the objectionable phrase, this rejection is addressed below with respect to new claim 31.

Specifically, the Examiner asserts that the objectionable phrase is unclear because the charging terminal seems to be moving with respect to itself. However, Applicants respectfully point out that the Examiner is considering only a portion of the relevant phrase. In particular, claim 31 recites "the first head of the first charging terminal being disposed on a line having a first distance with a center thereof passing through the center of the mobile robot and a center portion of the charging terminals moves in a first direction with respect to the first body of the first charging terminal" (emphasis added). As indicated by the underlined portions, claim 31 recites that the first head of the first charging terminal moves with respect to the first body of the

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first charging terminal. Thus, contrary to the Examiner's assertion, the terminal as a whole does not move with respect to itself. Instead, the first head moves with respect to the first body. See, for example, Fig. 4 of the present specification, where the second terminal from the bottom (and the second terminal from the top) includes a body 24 and a head 21 that moves with respect to the body 24.

For at least these reasons, Applicants respectfully submit that claim 31 would be clear to one of ordinary skill in the art, and therefore claim 31 is not indefinite. Accordingly, claim 31 satisfies the requirements of 35 U.S.C. §112, second paragraph. Thus, reconsideration and withdrawal of this rejection are respectfully requested.

D. §102(b) Rejection over Yoshikawa

Claims 1-5, 10, and 28 have been rejected under 35 U.S.C. §102(b) as being anticipated by Yoshikawa (U.S. Patent No. 5,892,350). For at least the reason discussed below, Applicants respectfully submit that claims 1-5, 10, and 28 are not anticipated by Yoshikawa, and are therefore patentable over Yoshikawa. Thus, reconsideration and withdrawal of this rejection are respectfully requested.

1. Claim 1

At page 3 of the Office Action, referring to Figs. 3-4B of Yoshikawa (i.e., Yoshikawa's first embodiment), the Examiner asserts that Yoshikawa's stationary electrode 18 (Figs. 3-4B) corresponds to a charging terminal as recited in claim 1, that Yoshikawa's stationary electrode 18 has a body that corresponds to a body as recited in claim 1, and that Yoshikawa's stationary electrode 18 has a head that corresponds to a head moveably coupled to the body as recited in claim 1. Alternatively, at page 7 of the Office Action, referring to Fig. 5 of Yoshikawa (i.e., Yoshikawa's second embodiment), the Examiner asserts that Yoshikawa's arm member 80, electrode brush 82, and spring member 84 collectively correspond to a charging terminal as recited in claim 1, that Yoshikawa's spring member 84 corresponds to a body as recited in claim 1, and that Yoshikawa's electrode brush 82 corresponds to a head moveably coupled to the body, as recited in claim 1. However, Yoshikawa does not disclose, among other things, "a body comprising an insulating material" and "a head movably coupled to the body," as

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presently-recited in claim 1.

Regarding Yoshikawa's first embodiment illustrated in Figs. 3-4B, Yoshikawa does not disclose, and the Examiner does not assert, that the stationary electrode 18 includes a body comprising an insulating material or a head moveably coupled to the body, as recited in claim 1. In fact, Yoshikawa's stationary electrode 18 is by definition made of a conductive material (as opposed to an insulating material), and is illustrated only as a single, stationary rod (as opposed to including a head moveably coupled to a body). Regarding Yoshikawa's second embodiment illustrated in Fig. 5, Yoshikawa does not disclose, and the Examiner does not assert, that the spring member 84 comprises an insulating material. Thus, the spring member 84 is not a body comprising an insulating material, as recited in claim 1. Accordingly, Yoshikawa does not disclose, among other things, "a body comprising an insulating material, and a head movably coupled to the body, and having a contact plate mounted on a predetermined portion of the head to be brought into electrical contact with the contact terminal of the mobile robot," as recited in claim 1.

For at least the reasons discussed above, Yoshikawa does not disclose every limitation of claim 1. Accordingly, claim 1 is not anticipated by Yoshikawa, and is therefore patentable over Yoshikawa. Thus, reconsideration and withdrawal of this rejection of claim 1 are respectfully requested.

2. Claims 2-5

Claims 2-5 depend from independent claim 1 and thus include all of the limitations of claim 1. Accordingly, these dependent claims are not anticipated by Yoshikawa, and are patentable over Yoshikawa, for at least the reasons discussed above with respect to claim 1. In addition, at least claims 4 and 5 are patentable over Yoshikawa for their own limitations, as well as for depending from independent claim 1.

Regarding claim 4, referring to Fig. 4B of Yoshikawa, the Examiner appears to assert that the hole in Yoshikawa's support plate 20 supports the stationary electrode 18, and thus corresponds to a groove as recited in claim 4. However, claim 4 recites that the body comprises a groove, and the head extends from the groove to be integrated with the body in a single

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structure. Applicants respectfully submit that Yoshikawa's hole is in the support plate 20 – not in a body of the stationary electrode 18. In fact, Yoshikawa does not disclose that the stationary electrode 18 comprises a groove at all. Accordingly, Yoshikawa does not disclose "the body comprises a groove, and the head extends from the groove to be integrated with the body in a single structure," as recited in claim 4. Thus, for this additional reason, Yoshikawa does not anticipate claim 4, and claim 4 is thus patentable over Yoshikawa.

Regarding claim 5, the Examiner only generally asserts that the stationary electrode 18 comprises an electrical connecting member embedded in the body and the head to electrically connect the contact plate to the electrical cable, as recited in claim 5, without specifically identifying where this is described and/or illustrated in Yoshikawa. However, Yoshikawa does not disclose that the stationary electrode 18 has anything at all embedded in a body thereof. At most, Yoshikawa illustrates at Fig. 4B a wire connected to a back of the stationary electrode 18, but does not describe or illustrate that the wire is embedded in a body thereof. Accordingly, Yoshikawa does not disclose "each of the charging terminal comprises an electrical connecting member embedded in the body and the head to electrically connect the contact plate to the electrical cable," as recited in claim 5. Thus, for this additional reason, Yoshikawa does not anticipate claim 5, and claim 5 is thus patentable over Yoshikawa.

For at least the reasons discussed above, claims 2-5 are patentable over Yoshikawa. Thus, reconsideration and withdrawal of this rejection of claims 2-5 are respectfully requested.

3. Claim 10

At pages 4 and 7 of the Office Action, referring to Figs. 3-5 of Yoshikawa, the Examiner asserts that Yoshikawa's support plate 20 corresponds to a terminal mounting board as recited in claim 10, that the hole in Yoshikawa's support plate 20 corresponds to a guide groove as recited in claim 10, that Yoshikawa's arm member 80, electrode brush 82, and spring member 84 collectively correspond to a charging terminal as recited in claim 10, that Yoshikawa's spring member 84 corresponds to a body as recited in claim 10, and that Yoshikawa's electrode brush 82 corresponds to a head moveably coupled to the body, as recited in claim 10. However, Applicants respectfully submit that Yoshikawa does not disclose a body or a head as recited in claim 10.

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As discussed above, the Examiner asserts that Yoshikawa's spring member 84 corresponds to a body as recited in claim 10. However, as illustrated in Fig. 5 of Yoshikawa, the spring member 84 does not have a member to be inserted into a hole in the support plate 20. In fact, the spring member 84 does not have any portion that is inserted into any groove at all. Thus, the spring member 84 is not a body having a first support member to be inserted into the guide groove. Furthermore, although Yoshikawa's stationary electrode 18 is illustrated as extending through a hole in the support plate 20, the stationary electrode 18 does not include a head movably coupled to the second support member of the body. In fact, the stationary electrode 18 does not include any portion that is moveably coupled to another portion thereof. Accordingly, Yoshikawa does not disclose, among other things, "a body having a first support member to be inserted into the guide groove" and "a head movably coupled to the second support member of the body," as recited in claim 10.

For at least the reasons discussed above, Yoshikawa does not disclose every limitation of claim 10. Accordingly, claim 10 is not anticipated by Yoshikawa, and is therefore patentable over Yoshikawa. Thus, reconsideration and withdrawal of this rejection of claim 10 are respectfully requested.

4. Claim 28

At pages 5 and 7 of the Office Action, referring to Figs. 3-5 of Yoshikawa, the Examiner asserts that Yoshikawa's support plate 20 corresponds to a terminal mounting board as recited in claim 28, that the hole in Yoshikawa's support plate 20 corresponds to a guide groove as recited in claim 28, that Yoshikawa's arm member 80, electrode brush 82, and spring member 84 collectively correspond to a charging terminal as recited in claim 28, that Yoshikawa's spring member 84 corresponds to a body as recited in claim 28, and that Yoshikawa's electrode brush 82 corresponds to a head moveably coupled to the body, as recited in claim 28. However, Applicants respectfully submit that Yoshikawa does not disclose a body or a head as recited in claim 28.

As discussed above, the Examiner asserts that Yoshikawa's spring member 84 corresponds to a body as recited in claim 28. However, as illustrated in Fig. 5 of Yoshikawa, the spring member 84 does not have an end that is moveably disposed in a hole in the support

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plate 20. In fact, the spring member 84 does not have any portion that is moveably disposed in any groove at all. Thus, the spring member 84 is not a body having a conductive material having a first end moveably disposed in the guide groove to receive the charging current, as recited in claim 28. Furthermore, although Yoshikawa's stationary electrode 18 is illustrated as extending through a hole in the support plate 20, the stationary electrode 18 does not include a head movably coupled to a body thereof. In fact, the stationary electrode 18 does not include any portion that is moveably coupled to another portion thereof. Accordingly, Yoshikawa does not disclose, among other things, "a body having a conductive material having a first end moveably disposed in the guide groove to receive the charging current" and "a head movably coupled to the body," as presently-recited in claim 28.

For at least the reasons discussed above, Yoshikawa does not disclose every limitation of claim 28. Accordingly, claim 28 is not anticipated by Yoshikawa, and is therefore patentable over Yoshikawa. Thus, reconsideration and withdrawal of this rejection of claim 28 are respectfully requested.

E. Claim Amendments and New Claims

Support for the amendments to claim 1 can be found throughout the specification, for example, at paragraphs [0044], [0054], [0060], and [0064]. Support for the amendments to claim 28 can be found throughout the specification, for example, at paragraph [0046]. New claims 31 and 32 correspond to original (canceled) claims 29 and 30, respectively.

F. Conclusion

It is respectfully submitted that a full and complete response has been made to the outstanding Final Office Action and, as such, there being no other objections or rejections, this application is in condition for allowance, and a notice to this effect is earnestly solicited.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided below.


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If any further fees are required in connection with the filing of this amendment, please charge the same to our Deposit Account No. 502827.

Respectfully submitted,

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